

# CLIN 0001 4 Ton Hydraulic Jack Product Performance Verification NSN: 4910-00-516-5806



Period 1		Period 2		Period 3		Period 4	
Range	Unit Price	Wgt.	Unit Price	Wgt.	Unit Price	Unit Price	Wgt.
150-199		5%		5%			5%
200-249		5%		5%			5%
250-299		5%		5%			5%
300-399		5%		80%			80%
400-500		80%		5%			5%

NSN: 4910-00-289-7233

# CLIN 0002 10 Ton Hydraulic Jack Product Performance Verification



Period 1		Period 2		Period 3		Period 4	
Range	Unit Price	Wgt.	Unit Price	Wgt.	Unit Price	Unit Price	Wgt.
200-249		35%		80%			80%
250-324		10%		5%			5%
325-399		5%		5%			5%
400-469		5%		5%			5%
470-550		45%		5%			5%

1. This will be an all or none procurement. Contractor's failing to bid on all items, all years, and all ranges may be disqualified.
2. For evaluation purposes, the Government has weighted the ranges based on the likelihood that if an order is placed, it will be placed in that particular range. An evaluation price will be calculated by multiplying the offered prices by their respective weights and minimum quantities for each range and adding the totals for all CLIN's and all years
3. Product Performance Verification requirements are shown directly under the CLIN number, if required. The box to the right of the requirement is for your proposed price of Product Performance Verification. The location of the box indicates the probable year of the Product Performance Verification requirement. Failure to propose on Product Performance Verification may be a reason for Disqualification.
4. Product Performance Verification costs proposed will be added to the evaluation price in the total of all years as explained in note 2. above.

BATTLEFIELD MAINTENANCE ENGINEERING  
DESCRIPTION FOR PURCHASE  
No. 391, rev A, 13 APRIL 2001  
DOLLY FLOOR JACKS  
FOR AUTOMOTIVE SERVICE APPLICATION  
4 TON and 10 TON RATED CAPACITIES

1 ABSTRACT. This Description for Purchase describes the performance and design characteristics, required by the Government, of commercially available, manually operated, hydraulically powered, full chassis length, dolly floor jacks of 4 ton and 10 ton rated capacities used in automotive service applications. Air assisted jacks, short chassis jacks, end lifts, transmission lifts, bottle jacks and other lifting devices not meeting the requirements herein are not included in this document and will not be considered as appropriate products to fill these Government needs. The jacks will be used in military vehicle maintenance shops and outdoor maintenance areas located around the world and which may not have any electrical service or compressed air available for support.

1.1 Market acceptability criteria. Jacks offered under this Purchase Description shall have been in production under the same basic design for the last 3 consecutive years and shall have been sold through a customary distributor network to professional automotive maintenance customers on a competitive basis with other manufacturer's jacks of similar design and intended market niche. The supplier to the Government shall demonstrate that the offered product is supported with adequate spare parts, commercial operation and maintenance manuals, and established repair facilities based in a broad geographic pattern for national and international support with experience at servicing and repairing the specific offered product.

2 REFERENCED DOCUMENTS.

2.1 American Society of Mechanical Engineers Safety Standard for Portable Automotive Lifting Devices, PALD 1997 with addendum 2000a Chapter 10, entitled "Service Jacks". Copies of ASME/ANSI PALD 10 can be obtained from the American Society of Mechanical Engineers, 345 East 47<sup>th</sup> Street, New York, NY 10017. The ASME maintains an internet web site at URL [www.asme.org](http://www.asme.org).

2.2 Military Specification MIL-DTL-17111C, Fluid, Power Transmission, dated 21 JAN 1998. Copies of MIL-DTL-17111 can be obtained from the Defense Logistics Agency web site at URL [www.dsp.dla.mil](http://www.dsp.dla.mil). Select "specs and stds" from the menu list on the left side. Select "assist – quick search" from the text in the window. Type in 17111 in the space for the document number. When the information is returned, read the instructions at the top of the page and then click on the icon that will retrieve the digital image of the document. Information will be returned that includes bibliographic data and an icon to retrieve the image. The file will be presented on screen in Portable Document File (.pdf) format, which is read with an Adobe Acrobat reader. A copy of the reader can be obtained as a free download from the internet. A connection to the Acrobat download site is available at this point on the Government's web site. The specification service is free but users of it may be required to complete an online registration form to gain access.

### 3 SALIENT CHARACTERISTICS.

3.1 Completeness. When the Government solicits for jacks under this document it is the intent of the Government to acquire completely assembled and readily usable jacks. It is the bidder's and contractor's responsibility to bring to the attention of the Government's Contracting Officer such incompatibilities or omissions of equipment that would seem incongruous or prevent the jacks from being fully functional when received by the end user. It is permissible to ship the jacks with the pump handles detached and packed in the same container as the jacks to reduce the volume of the shipping containers. Jack handles shall be packed in the same container with the jacks they are to attach to and not be packed separately.

3.2 Design. Jacks supplied shall have two speed hydraulic units utilizing a combination of pistons and valves that provide for raising the saddle rapidly to contact the load. The pump unit shall then automatically change the mechanical advantage to provide for raising the load after contact without having to change the length of the pump lever arm to change the mechanical advantage. The jacks offered to the government shall meet all of the requirements of the American Society of Mechanical Engineers Safety Standard for Portable Automotive Lifting Devices, PALD 1997 with addendum 2000a Chapter 10, entitled "Service Jacks" and all further requirements set forth in this specification. In the event of a perceived conflict between the PALD standard and this document, this document shall take precedence.

3.3 Product requirements. The following product requirements are in addition to those that may be mentioned in ANSI/ASME PALD 10.

3.3.1 Chassis length. The full length of the 4-ton rated chassis shall be not less than 47 inches, excluding the handle. The full length of the 10-ton rated chassis shall be not less than 50 inches, excluding the handle.

3.3.2 Lifting distance. The 4-ton jack shall be capable of lifting the full rated load from its lowest position, at no higher than 5-1/2 inches, to its highest position, at no lower than 21 inches. The 10-ton jack shall be capable of lifting the full rated load from its lowest position, at no higher than 6-1/2 inches, to its highest position, at no lower than 21 inches.

3.3.3 Force on handle. The 4-ton load shall be lifted from the lowest position to the highest position with no more than 160 pounds of force applied at the "T" on the handle. The 10-ton load shall be lifted from the lowest position to the highest position with no more than 180 pounds of force applied at the "T" on the handle.

3.3.4 Handle design. The pump handle for both sizes of jack shall be no more than 54 inches long from the pivot point to the "T" on the end of the handle. A "T" on the handle is required.

3.3.5 Saddle. The saddle for both sizes of jack shall have an area not less than 38 square inches as measured from the silhouette seen from above the saddle.

3.3.6 Hydraulic fluid. Only hydraulic fluid and seals compatible with MIL-DTL-17111 hydraulic fluids shall be utilized in the jacks. The following message shall be printed in a permanent manner near the filler plug(s) of the hydraulic fluid reservoir.

CAUTION  
USE NO OTHER FLUID THAN  
MIL-DTL-17111

(Although you, the manufacturer, may not have used a certified MIL-DTL-17111 fluid in the jack at the time of manufacture, this is the only common place hydraulic fluid that the soldiers in the military will have available to them when they have to add or replace fluid in the jack. Therefore, it is a requirement that the fluid that you do place in the jack at point of manufacture be compatible with MIL-DTL-17111 so that this milspec fluid that is in stock at the Army base may be used as a replacement fluid. The objective is to avoid the usual incompatibility problems related to seal swelling rates, viscosity changes, reduced corrosion inhibition, etc. With this message we are informing the soldier that he should use this milspec fluid to refill the reservoir. This should prevent incompatibility problems without causing the soldier to seek out a specific brand or type of fluid that may be otherwise specified by you, the manufacturer, as a replacement fluid and which he doesn't have on hand.)

3.3.7 Overload bypass valve. The jack shall incorporate a hydraulically activated overload protection system which is separate in design and operation from the load release system, is not externally adjustable by the user and which is located in the pump side of the hydraulic circuit such that it shall bypass hydraulic fluid from the pump to the reservoir when experiencing an overload on the saddle. The valve shall be adjusted to operate at a load between 100% of the jack's rated load and 115% of the jack's rated load. (Although the ANSI/ASME safety standard allows for a setting between 85 and 115 percent, this has caused a problem that is peculiar to the military users. Each year, by regulation, they must test the jacks to verify that they can safely lift and hold the maximum rated load. The testing procedure is simple and results in a pass or fail condition. The procedure does not include or allow any manipulation or resetting of the overload bypass valve. If the valve is set to bypass at a load that is less than 100 percent of the advertised rated load then the jack begins to bypass at that lower load and the "soldier/tester" determines that the jack can no longer lift its rated load. A design engineer who understands the hydraulic circuitry of the jack will understand what this means. The soldier doesn't. He tags it as "UNSAFE – DO NOT USE" and chains it to a post so that no one can take it away and use it by accident. This has happened on several occasions where 100 percent of all brand new jacks tested were marked as unsafe and locked up. It is not an easy task to find every location that performs these tests and cause them to rewrite their testing procedures and pass/fail criteria to avoid the problem. It is easier to purchase a 10 ton jack that actually lifts 10 tons. Until recently the ANSI/ASME PALD standard did require the bypass valve to be set between 100 percent and 115 percent of the rated load. Until the change by ASME the military did not experience this problem. The unfortunate side effect of the problem is that the manufacturer of the jacks that were locked up had to endure the negative

advertising that resulted when word of mouth spread the information among the soldiers that the particular brand that was tested was “100% junk.”)

**3.3.8 Load release system.** The hydraulic unit shall incorporate a manually activated and controlled hydraulic release system to permit controlled lowering and complete stopping, at any position of the saddle, when the saddle is either fully loaded or completely unloaded, throughout the entire range of saddle travel. The load release system shall control the saddle’s overall rate of descent to one foot per minute or slower throughout the full range of saddle travel, without stopping, while under full rated load. The release system shall be controlled at the “T” or cross end of the handle.

**3.3.9 Hydraulic over-travel bypass system.** The hydraulic system shall incorporate a hydraulic fluid bypass to prevent over-travel of the lifting member after reaching its highest raised position. Unlimited buildup of hydraulic pressure, after reaching the point of highest rise, will not be acceptable.

**3.4 Manuals and operating instructions.** Commercial manuals and operating instructions shall be provided with each jack furnished. The manuals and instructions shall be written in American English dialect and shall be printed in a clean and legible manner. The literature shall include setup, operation, maintenance and repair information, addresses of dealer/distributors who do repair work, and a list of replaceable parts with part numbers.

**3.5 Reclaimed materials.** The manufacturer may use reclaimed materials for fabricating new parts. Reclaimed materials shall be reprocessed, remanufactured, or recycled in a manner that restores them to the same chemical composition and physical properties as the virgin materials originally selected for use. Use of reclaimed parts as is or rebuilt from scrap or other used equipment is not permitted.

**4 Product verification.** Design proof testing and quality control of characteristics resulting from manufacturing processes are covered in ASME/ANSI PALD 10. The manufacturer shall provide written certification to verify that programs to ensure the required performance and quality as specified in PALD 10 and this Description for Purchase are in place in the manufacturing environment for the products delivered in accordance with this document. The Government reserves the right to perform any or all of the product verification procedures at any time and at any location it so chooses to assure continuous compliance with all requirements.

**4.1 Verification procedure.** In anticipation of a contract the Government will require that the following verification procedures be performed to assure that the product offered meets all of the advertised requirements.

**4.1.1 Verification of size.** An example jack shall be selected from stock and the following measurements shall be taken. Verify that the rated capacity is marked on the jack and that it is as required.

For the 4 ton jack use these measurements:

- a. Chassis length - not less than 47 inches
- b. Lowest saddle position (height) - no higher than 5-1/2 inches
- c. Highest saddle position (height) - no lower than 21 inches
- d. Handle length - no more than 54 inches long
- e. Saddle area – no smaller than 38 square inches

For the 10 ton jack use these measurements:

- a. Chassis length - not less than 50 inches
- b. Lowest saddle position (height) - no higher than 6-1/2 inches
- c. Highest saddle position (height) - no lower than 21 inches
- d. Handle length - no more than 54 inches long
- e. Saddle area – no smaller than 38 square inches

Failure of the example jack to meet these measurement requirements shall be cause for rejection of the entire quantity of products offered for delivery. Further verification shall not be performed upon product that did not pass this verification of size requirements.

4.1.2 Verification of features. The same jack shall be examined to determine the presence of the following features:

- a. The jack shall be fully assembled, with its handle attached
- b. The handle shall have a “T” on the end of it
- c. The hydraulic fluid identification shall be permanently marked near the reservoir and it shall identify MIL-DTL-17111 as the proper fluid for refilling the jack.
- d. There shall be a manually activated load release system with control located at the “T” on the handle.
- e. Commercial manuals and operating instructions shall be with the jack.  
The commercial literature shall be written in American English, shall be printed in a clean and legible manner, shall include the set up procedure, operating procedure, maintenance and repair information, and the addresses of dealers or distributors who can perform repair work, and a list of replaceable parts with part numbers.”

Failure of the example jack to have these features present shall be cause for rejection of the entire quantity of products offered for delivery. Further verification shall not be performed upon product that did not have these features.

4.1.3 Verification of product performance. The same jack shall be operated and/or tested to verify the required performance.

- a. The jack shall be operated to demonstrate the required two speed hydraulic system. This shall be accomplished by first using the handle to raise the saddle as far as it will go with 5 strokes of the handle, each stroke being the full length attainable. This may begin at any height, but the height shall be recorded in inches so that the second half of the examination may start at the same height. The change in height shall be recorded in inches. Next, a load large enough to cause the second speed to become activated shall be

applied to the saddle and the saddle positioned at the same height as the no load lift began. The handle shall be pumped its full stroke length 5 times and the distance the saddle traveled in inches shall be recorded. The ratio between the slow speed and the fast speed shall be not less than 1:3

b. The jack shall be operated to demonstrate the force applied to the handle in a downward direction to lift the rated load. The rated load shall be applied to the saddle and the load shall be lifted from the lowest position to the highest position with no more than 160 pounds of force applied to the handle for the 4 ton jack and no more than 180 pounds for the 10 ton jack.

c. The jack shall be operated to demonstrate the overload bypass valve. A load equal to the rated load of the jack shall be applied to the saddle and the load lifted. Another load equal to 115% of the rated load of the jack shall be applied to the saddle and the jack pumped to attempt to lift the load. The jack shall successfully lift the rated load and fail to lift the overload. The location of the overload bypass valve setting device shall be pointed out and the method of denying this setting feature to the soldier shall be explained. The location of the valve in the hydraulic circuitry shall be explained with the use of engineering drawings and/or hydraulic circuit diagrams.

d. The jack shall be operated to demonstrate the load release system. The rated load shall be applied to the saddle and raised to its highest position. The release mechanism shall be operated to lower the load to its lowest position, stopping along the way to demonstrate the ability to halt the load at any desired point and retain the load in position without uncontrolled further lowering. The load shall be raised to its highest position again and the release mechanism operated to demonstrate controlled lowering throughout the entire lifting range. The load shall be lowered, using the release mechanism, at a rate no faster than 1 foot per minute with no stops along the way.

e. The jack shall be operated to demonstrate the hydraulic over-travel bypass system. The jacks lifting arm shall be pumped as high as it can travel and pumping shall continue. The hydraulic fluid bypass valve shall act to prevent unlimited buildup of hydraulic pressure, after reaching the point of highest rise.

Failure of the example jack to meet these performance requirements shall be cause for rejection of the entire quantity of products offered for delivery. Further verification shall not be performed upon product that did not pass this verification of performance requirements.

**4.1.4 Verification of packaging performance.** To verify the packaging performance 4 jacks that have been packaged per the instructions in section 5 shall be presented for verification.

**4.1.4.1 Stacking verification.** All four packaged jacks shall be stacked, one upon the other, until a height of 4 units is achieved. They shall be left in this condition for one hour. At the end of one hour the packaging shall be examined to determine that fracturing, leaning, tipping over, sagging or separation of joints have not occurred.

4.1.4.2 Forklift handling verification. The jacks shall then be restacked by forklift so that the box that was on top is now on the bottom and the box that was on the bottom is now on the top. The packaged jacks shall be restacked in this manner a total of five times by forklift with no sagging or tilting in any direction, and shall endure frequent moving and restacking without deterioration of the structural integrity of the boxes

## 5. PRESERVATION, PACKING, AND PACKAGING.

5.1 Preservation, Packing and Packaging shall be in accordance with ASTM-D-3951 plus the following additional requirements. The unit package quantity shall be 1 each.

5.2 If oak or chestnut wood products are used in the performance of this contract, these wood or wood products must be free of all bark.

5.3 Shipments to the same destination shall be palletized unless forklift handling features, such as skids, are included on unit pack containers.

5.4 Workmanship shall be such that when proper procedure is followed, materials and equipment being processed will be provided the maximum protection against corrosion, deterioration, and be suitable for storage to the level of packaging specified.

5.5 Stacking strength. Each box constructed, with blocking and bracing, shall be strong enough to support the weight of three other fully loaded boxes imposed on top of it without fracturing, leaning, tipping over, sagging or separation of joints. The boxes shall accommodate warehouse stacking, with forklift capabilities, at least four boxes high, with no sagging or tilting in any direction, and shall endure frequent moving and restacking without deterioration of the structural integrity of the boxes. Failure of any of the sample packaging to conform to these requirements shall be cause for rejection of all the offered packaging.

5.6 Marking requirements. Container markings shall be in capital letters of equal height, shall be proportionate to the available marking space. Markings on the shipping containers shall be grouped into three distinct categories, (1) identification markings, (2) contract data markings and (3) address markings and shall be arranged in the order listed.

### (1) Identification Markings:

- a. NSN/NATO stock number: 4910-00-516-5806 (4 ton jack) or 4910-00-289-7233 (10 ton jack)
- b. CAGE code of the company awarded the contract, and commercial part number of the item
- c. Quantity and unit of issue (1)
- d. Date packed.
- e. Gross weight and cube.
- f. Item description or nomenclature: "Jack, Dolly Type, Hydraulic, Automotive Service,



ton” or “Jack, Dolly Type, Hydraulic, Automotive Service, 10 ton”

(2) Contract Data Markings:

The contract data marking placed under the identification markings, shall consist of the contract or purchase order number.

(3) Address Markings:

The address markings placed to the right of the identification and contract data markings (if space is available) shall consist of the following information in the order shown.

- a. Control number or reference number (as a minimum, the Transportation Control Number (TCN) shall be provided as the single standard shipment identification number)
- b. FROM: Name and address of the contractor (including nine-digit zip code).  
When supplies are shipped from a subcontractor, only the name and address of the company awarded the contract shall be used.
- c. TO: Name and address of consignee (DOD Activity Address Code (DODAAC) and in the clear address if applicable.

5.5 Bar codes. In addition to the above information, the NSN/NATO stock number shall be bar coded onto the unit packs and any intermediate containers. The following shall be bar coded on the shipping container. All bar coding shall use the 3 of 9 format in accordance with ANSI MH10.8M.

NSN/NATO stock number: 4910-00-516-5806 (4 ton jack) or  
4910-00-289-7233 (10 ton jack)

Contract or order number.

CAGE code of the company awarded the contract.

Contract Line Item Number (CLIN) if applicable.